

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Nautilus Poplar, LLC.
Well Name/Number: EPU 123
Location: SE SW Section 3 T28N R51E
County: Roosevelt, **MT;** **Field (or Wildcat)** East Poplar

Air Quality

(possible concerns)

Long drilling time: No, 10 to 15 days drilling time.

Unusually deep drilling (high horsepower rig): No, double or small triple derrick drilling rig to drill to 5860' TD.

Possible H2S gas production: Yes possible H2S gas production.

In/near Class I air quality area: Yes, Class I air quality area, Fort Peck Indian Reservation.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Double or small triple derrick drilling rig to drill to 5860' TD. No special concerns.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, freshwater and freshwater mud system on surface hole, salt saturated mud system on mainhole to total depth.

High water table: No high water table anticipated in this area.

Surface drainage leads to live water: Yes, closest surface drainage is the Poplar River about 1.125 miles to the northwest from this location.

Water well contamination: No, all water wells shallower than surface casing setting depth of 1,100'. Closest wells to this location are groundwater monitoring wells. Surface hole will be drilled with freshwater and surface casing set and cemented back to surface from 1,100'.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage: No Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 1,100' of surface casing cemented to surface is enough surface casing to cover the Judith River Formation.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None anticipated.

High erosion potential: No, small cut up to 4.5' and small fill, up to 3.4' required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, large location for a well of this depth, 240'X200' location size required.

Damage to improvements: Slight, surface use is a cultivated field.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28)

Comments: Using existing county gravel roads. Will have to build about 542' of new access road into location off existing east-west county gravel road. Drilling fluids and completion fluids will be hauled to a commercial Class II disposal. Cuttings will be left in the lined pit. Cuttings and pit will be buried after being allowed to dry. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are 1 mile and further from this location.

Possibility of H₂S: Possible H₂S.

Size of rig/length of drilling time: Double or small triple drilling rig 10 to 15 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H₂S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Proper BOP and adequate surface casing should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened, endangered or candidate species identified are the Pallid Sturgeon, Interior Least Tern, Piping Plover and the Whooping

Crane. Candidate specie is the Sprague's Pipit. NH tracker website lists one (1) species of concern, Great Blue Heron.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Closest live water is the Poplar River, but location is in a cultivated field. Distance to the Poplar River is sufficient that drilling fluid should not impact the river. Private surface lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: Private cultivated surface lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: Well is a field development oil well in the East Poplar Oil Field. No concerns.

Remarks or Special Concerns for this site

Well is a 5860' TD vertical Charles Formation test in the East Poplar Oil Field.

Summary: Evaluation of Impacts and Cumulative effects

No significant long term impacts expected, some short term impacts are expected.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the

human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: September 24, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Roosevelt County water wells
(subject discussed)
September 24, 2011
(date)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Roosevelt County
(subject discussed)

September 24, 2011
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T28N R51E
(subject discussed)

September 24, 2011
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____